

Science Toolkit: Grade 8 Objective 1.A.1.g

Student Handout: Science: Grade 8 Objective 1.A.1.g

Standard 1.0 Skills and Processes

Topic A. Constructing Knowledge

Indicator 1. Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided.

Objective g. Give reasons for the importance of waiting until an investigation has been repeated many times before accepting the results as correct.

Selected Response (SR) Item

Question

Use the information below to answer the following.

Students investigated how the design of a paper airplane affects the amount of time the airplane stays in the air and the distance the airplane travels. The students tested two airplane designs and kept all other variables constant. The students recorded their data in the tables below.

AIRPLANE Y



Long and Narrow

AIRPLANE Z



Short and Wide

DISTANCE AIRPLANES TRAVELED

Airplane	Trial 1	Trial 2	Trial 3
Y	600 centimeters	550 centimeters	800 centimeters
Z	150 centimeters	175 centimeters	105 centimeters

TIME AIRPLANES WERE IN THE AIR

Airplane	Trial 1	Trial 2	Trial 3
Y	3 seconds	2 seconds	4 seconds
Z	2 seconds	7 seconds	6 seconds

After Trial 1, a group of students decided that Airplane Y would travel farther and stay in the air a greater amount of time than Airplane Z.

Which is the best scientific reason the students should repeat the trial at least three times?

- A. to follow the teacher's instructions
- B. to reduce the likelihood of a design defect
- C. to change the unit of measurement for distance
- D. to reduce the likelihood of inaccurate results

Correct Answer

D. to reduce the likelihood of inaccurate results

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